NavMed 369 RESTRICTED

NAVY DEPARTMENT

BUMED NEWS LETTER

a digest of timely information

Editor - Lt. Samuel Nesbitt, (MC), U.S.N.R.

Vol. 5 Friday, May 25, 1945 No. 11

TABLE OF CONTENTS

Form Letters:

The Fluid and Nutritional Therapy of Burns: The Subcommittee on Shock of the National Research Council has prepared a memorandum, referred to in the Bumed News Letter of December 22, 1944, containing suggestions for the use of fluids and food administered orally and parenterally in the treatment of burns. This memorandum was prepared as an aid to the medical officer who has had little or no experience in the management of such cases.

Following damage to the skin by a burn there is loss of extracellular fluid, salts and plasma proteins from the burned area. With this fluid loss there is dehydration, a decrease in the circulating plasma volume, and hemoconcentration. It is generally agreed that in burns which involve less than 10 per cent of the body surface, there is not sufficient loss of extracellular fluid to warrant intensive fluid therapy. The following discussion is concerned with patients with more than 10 per cent of the body surface involved by second degree (blistered) or third degree (coagulated or charred) burns. Roughly, then, this outline would be followed for patients with severe burns of at least one of the following areas: (1) face and neck, (2) dorsal or ventral surface of chest, (3) dorsal or ventral surface of abdomen, (4) one upper extremity, (5) dorsal or ventral surface of one lower extremity. If there is any doubt as to whether a patient should be included in this category, he should be included. Patients with burns involving less than 10 per cent of the body surface but having other injuries, particularly wounds or fractures, also should be included in this category.

The course of the severely burned and inadequately treated patient can be divided into three dangerous phases:

1. The period of shock (0-48 hours after burn): The signs of shock are often very misleading until just before collapse occurs, and shock may be present when a patient appears and acts quite well. Generalized vasoconstriction may keep the blood pressure at satisfactory levels even though cardiac output is greatly diminished. Therefore, in the early hours, the presence of shock is to be assumed in all severely burned patients despite a satisfactory clinical appearance. If one waits for the appearance of cold extremities, cyanosis, and collapsed veins, therapy is apt to be ineffective. This period of shock (0-48 hours after burn) is also the period for intensive fluid therapy.

2. The period of toxemia (48-120 hours, occasionally as late as the third week): Fever, jaundice, anuria, stupor and delirium, and circulatory collapse despite adequate fluid therapy, occur frequently. With full realization of the inadequate state of our present knowledge of the cause of burn toxemia, it may be helpful to consider it tentatively as due to one or more of the following conditions:

(a) Inadequate treatment of shock or treatment not instituted early enough, with consequent ischemic damage to kidneys, liver, etc. - for example,

failure to maintain blood volume by plasma and/or whole blood administration. In other instances, loss of electrolytes and fluid from burned surfaces, as well as vomiting and sweating with consequent dehydration and acidosis, may be etiologic factors.

(b) Excessive administration of electrolyte (non-colloid) solutions with consequent dilution of plasma proteins to the edema level (less than 5 Gm. protein per 100 cc.). This is particularly dangerous if there is associated renal and/or cardiac damage.

(c) Infection of burned areas.

(d) It has been suggested that there is absorption from burned tissues of protein products which are "toxic". If this occurs, the effect will be minimized by maintaining an adequate blood supply to all the body tissues, i.e., a normal blood volume, with normal hemoglobin concentration and adequate renal function.

3. The period of anemia and hypoproteinemia: Anemia and hypoproteinemia may develop during the first 72 hours but are usually not evident until the signs of toxicity have largely disappeared. Actual red blood cell destruction with hemolysis, hemoglobinemia, and hemoglobinuria soon after the burn is a cause of early, masked anemia. It is likely that failure to maintain nutrition is the most important factor in the production of both anemia and hypoproteinemia, and every effort, therefore, should be made to keep the burned patient in nitrogen equilibrium.

Fluid therapy in burns should be directed toward two major objectives: (a) rapid replacement of acute deficits, and (b) maintenance of daily fluid and nutritional requirements. Rapid replacement of acute deficits should be directed toward: (1) restoration and maintenance of a normal blood volume, an adequate hemoglobin concentration (13 to 16 Gm. per 100 cc.), a plasma protein concentration above 6.0 Gm. per 100 cc., a satisfactory urinary output (usually 100 cc. per hour during the first 48 hours); (2) prevention of dehydration, acidosis and salt depletion; and (3) avoidance of overadministration of electrolyte (non-colloid) solutions by the parenteral route.

I. Early Acute Burns (0-48 hours): Fluids are given in this phase for three purposes: (1) to restore blood volume and to treat shock (chiefly plasma and blood); (2) to provide extra fluid to compensate for edema of injured tissues and loss from burned surfaces (plasma and salt solutions); (3) to provide additional fluid for adequate urinary excretion (water and salt solutions or dilute salt solutions). In a severe burn (30 to 40 per cent of the body surface or more), the volumes required for these purposes for the 48-hour period are roughly as follows: (1) 2,000 cc.; (2) 4,000 to 10,000 cc.; (3) 2,000 to 3,000 cc. Replacement therapy in the first 48 hours thus involves fluid volumes of these magnitudes, totaling from 8,000 to 15,000 cc. for the 48-hour period.

A. Intravenous Therapy.

1. Plasma: Whole plasma is the colloid solution of choice; it supplies fluid and electrolyte as well. The dosage of plasma is best gauged by formulae based on the extent of hemoconcentration, size of burn, and, of special importance, the clinical response of the patient. It is best not to give all of the indicated amount of plasma at one time. Even when shock is severe, usually one-third of the complete dose is sufficient at first, the remainder being given during the succeeding four or five hours.

When acute collapse occurs, the first dose of plasma should be given rapidly. Since in these circumstances there is an acute failure of venous return to the heart, the fluid introduced must, to a considerable extent, supply this venous return. An initial introduction of from 200 to 300 cc. in the first two minutes is not too rapid; the administration should be continued, up to 1,000 cc. or more, until a satisfactory clinical response is obtained. Subsequent amounts should be given more slowly. In shock, time is extremely important; if plasma or whole blood is not immediately available, physiologic electrolyte solution (two parts physiological saline to one part one-sixth molar sodium bicarbonate or one-sixth molar sodium lactate solution) or normal saline solution should be administered rapidly until plasma and whole blood are secured. Plasma is of little value beyond the third day, and is seldom needed after the first 24 hours if the treatment during that period has been adequate.

Representative formulae for computing the amount of plasma to be administered may prove helpful:

(a) Formulae based on extent of hemoconcentration:

(1) Give 150 cc. of plasma for each increase in specific gravity of 0.001 above the normal whole blood specific gravity of 1.060 (i.e., If the specific gravity of whole blood is 1.070, give 1,500 cc. of plasma.).

(2) Or give 100 cc. of plasma for each point the hematocrit exceeds the normal of 45 (i.e., If the hematocrit is 60, give 1,500 cc. of plasma.).

(3) Or give 50 cc. of plasma for each point the hemoglobin exceeds the normal of 100 per cent, or 300 cc. of plasma for each gram the hemoglobin exceeds the normal of 15 Gm. per 100 cc. (i.e., If the hemoglobin is 130 per cent or 20 Gm. per 100 cc., give 1,500 cc. of plasma.).

(4) Or give 100 cc. of plasma for each 100,000 the red cell count exceeds the normal of 5,000,000 per cu. mm. (i.e., If the red cell count is 6,500,000, give 1,500 cc. of plasma.).

All formulae based on hemoconcentration may at times be in serious error. For example, in the first hour or so after the injury, the hematocrit may still be normal, plasma loss having just started. In such a case, the hematocrit repeated at the third and sixth hours gives a truer picture of the condition. It

should be remembered that formulae dependent upon hemoconcentration show only the needs of the patient at the time of testing, not all his requirements during the entire course of the burn. The normal plasma protein range is from 6.3 to 7.7 Gm. per 100 cc. with an average of 7 Gm. per 100 cc., which latter value corresponds to a specific gravity of 1.0264.

Hyperproteinemia is not usual. When present, it is encountered only in the initial two to three hours and then only in patients who have received no fluids and are dehydrated. A hypoproteinemia is the rule. The level may fall so low (below 5 Gm. per 100 cc.) that general edema results. If possible, the protein concentration should be prevented from dropping below a level of 6.0 Gm. per 100 cc. (plasma specific gravity of 1.024).

(b) Formula based on the area of the burn.

During the first twelve hours give 50 cc. of plasma for each per cent of the body surface involved by a deep (blistering) burn. Often more plasma must be given later. Burns of the face, groin, or buttocks usually exude more plasma than the surface involvement indicates, and more plasma should be given accordingly. Very few persons with burns covering less than from 10 to 15 per cent of the body surface will require plasma transfusions.

2. Albumin: Iso-osmotic human albumin solution is a satisfactory substitute for blood plasma in comparable dosages of protein. With concentrated albumin solutions, saline should be given additionally.

3. Whole blood transfusions: In patients with a hematocrit below 60, give 500 cc. of compatible whole blood for every 1,000 cc. of plasma administered. In any case where plasma is not available, whole blood is better than electrolyte solutions.

Rh typing is mandatory in all burn cases which show transfusion reactions on repeated transfusion. It is desirable in all cases of deep burns of more than 20 per cent of the body surface for which repeated transfusions may be needed. The use of Rh-negative blood in the cases of females under 40 years of age is advisable. (It is advised that regardless of age, all females who are Rh negative should be given only Rh-negative blood if it is available. Ed.)

4. Electrolyte solutions. In burns of less than 10 per cent of the body surface, give 2,000 cc. of physiologic electrolyte solution each 24 hours, preferably by mouth. In burns of more than 10 per cent of the body surface, chief reliance for prevention or relief of shock is placed on the use of plasma (or albumin or whole blood), as indicated above. Additional amounts of saline and glucose solutions should also be given parenterally to those patients for whom the required intake by mouth may be excessive, i.e., more than 8 liters in any

24-hour period. The physiologic electrolyte solution or its equivalent should be used. The fluid should contain glucose, from 100 to 200 Gm. daily. The volume of electrolyte solution given intravenously should be roughly the same as the volume of plasma given during the first two days. It should be larger or smaller, depending upon the success of oral therapy, but should not exceed 4,000 cc. in any 24-hour period.

B. Oral Therapy: As indicated above, oral therapy with crystalloid solutions is chiefly to replace fluid loss and to maintain adequate urine volume. Water and non-salt containing fluids, such as milk and ginger ale, can be given up to 2,000 cc. a day to aid renal function; no more than this quantity should be given until all of the required electrolyte solution has been swallowed and retained. After this has been accomplished, water can be given ad libitum. Fruit juices, in equal amounts, may serve as a substitute for part of the indicated amount of physiologic electrolyte solution.

In burns of less than 10 per cent of the body surface give 2,000 cc. of physiologic electrolyte solution during each of the first two days. In burns of more than 10 per cent of the body surface give from 3,000 to 8,000 cc. of physiologic electrolyte solution the first day, depending on the extent of the burn, and give 3,000 cc. of physiologic electrolyte solution the second day.

Oral therapy should be started immediately on admission, before local treatment is begun and while waiting for parenteral therapy to be started. However, in severe shock, oral fluids should be started cautiously, as absorption may be slow, and there is danger of vomiting and aspiration. In such cases, parenteral therapy must be started at the earliest possible moment, and oral administration should not be pushed until the patient is out of shock.

If, after recovery from acute shock, the patient vomits, a quantity of physiologic electrolyte solution equal to that of the vomitus should be given again. If this happens repeatedly, oral fluid should be temporarily discontinued, but an attempt should be made to give electrolyte solutions again after a two- to three-hour rest period. In cases where the stomach is loaded with food, preliminary washing out of the stomach to prevent aspiration of solid food may be advisable. This procedure may be followed by administration of fluid by Levine tube.

A definite schedule of oral fluid administration in terms of cc. per hour should be set up and closely followed to avoid overloading the stomach. In severe burns, from 200 to 400 cc. of fluid should be given regularly on the hour during the first 18 to 24 hours. Usually very large volumes of fluid are tolerated during the first two days. Contraindications are: (a) the presence of thermal burns of the throat, larynx, or lower air passages (a face burn should make one suspicious of such involvement), (b) the presence of the casualty in

a conflagration in an enclosed space where inhalation of toxic gases may have occurred, and (c) the case of the aged or cardiac patient, where too vigorous fluid administration increases the tendency to pulmonary edema. A reduced parenteral intake of electrolyte solutions and plasma, and the substitution, in part, of whole blood, is preferable in such cases.

The urinary output is one important indication of the adequacy of fluid therapy. An attempt should be made to maintain the urinary output above 50 cc. per hour during the first 48 hours. Obviously, at the beginning of treatment, fluids administered will pass into dehydrated and injured tissues, and anuria for a matter of hours is not uncommon. With the schedule of treatment already described, however, urine output should start at least after four or five hours and increase to the 100 cc. per hour level shortly thereafter. An inlying catheter may be useful to follow this more closely. It should be realized, however, that following shock, especially if prolonged, kidney damage may have occurred. If therapy as described does not open up the kidneys, excessive parenteral fluid, especially large quantities of intravenous saline, will not accomplish it either, but will only dilute blood and body fluids. For this reason the plasma protein concentration should not be allowed to fall below 5.0 Gm. per 100 cc. (plasma specific gravity, 1.021).

C. Treatment of Acidosis: If the severely burned patient has received no fluid therapy for several hours after the time of injury, acidosis occurs not infrequently, particularly if the patient has been in shock for any length of time. Acidosis should be promptly treated. Normally the CO_2 content of the plasma is about 60 volumes per cent. For each volume per cent the plasma CO_2 is under 55 volumes per cent in a 60 kg. man, give one of the following:

(1) 40 cc. of a 4 per cent $NaHCO_3$ intravenously.
(2) 125 cc. of 1.3 per cent (isotonic) (1/6 molar) $NaHCO_3$ orally or intravenously.
(3) 125 cc. of 1.75 per cent (isotonic) (1/6 molar) sodium lactate orally or intravenously.
(4) 375 cc. of physiologic electrolyte solution (the larger dosage is necessary since, to prevent alkalosis when administered in large quantities, this solution is purposely made with only one-third the potential bicarbonate, and hence only one-third the anti-acidotic power, contained in the 1/6 molar solutions).

II. Late Burns (after 48 hours): The chief aims of fluid treatment at this stage are the prevention and treatment of toxemia, anemia and hypoproteinemia. If therapy in the first 48 hours has been adequate, a normal intake of fluid with supplemental fluid and salt to cover continued loss from the wound should prove adequate. After 48 hours some resorption of the local edema

may be expected, and it may be unwise to force fluids and electrolytes as vigorously as during the period of local edema formation.

Toxemia may be present early but may cause fatalities as late as the third week. Anemia and hypoproteinemia may exist from the first few days and are troublesome until granulating surfaces have completely epithelized. Electrolytes, as well as protein, are lost from granulating surfaces and should be replaced by an adequate intake of salt in the diet.

A. Intravenous Therapy.

1. Plasma or albumin is seldom necessary after the second day. A transfusion of 500 cc. of plasma usually contains less than 30 Gm. of plasma protein; a severely burned patient needs from 150 to 200 Gm. of protein a day. Hence, while plasma transfusions are helpful in combating hypoproteinemia, they are quantitatively insufficient to accomplish much in this regard.

2. Amino acid solutions now available can usually be tolerated intravenously in amounts up to from 100 to 150 Gm. of amino acids in a 10 per cent solution, if administered slowly. This is helpful during the first week or longer (after shock has been relieved) in sustaining and restoring the patient's state of nutrition, but is indicated only if the patient cannot take adequate proteins by mouth.

3. Whole blood transfusions are of especial value at this stage. There is usually a continued red cell loss from bleeding, from increased red cell destruction due to infection, and from failure of adequate red cell regeneration. Plasma protein is also lost from open burn surfaces in large amounts. Whole blood introduced in large amounts and at frequent intervals combats anemia and hypoproteinemia and is one of the best means of maintaining resistance to infection. Enough whole blood should be given to raise the hemoglobin to 85 per cent (hematocrit to 40, red count to 4.7 millions) and to maintain it at or above this level. As much as 1,500 cc. of whole blood daily for several days may be given every three or four days as long as the rectal temperature is above 102° F., or the plasma proteins are below 6.0 Gm./100 cc.

4. Electrolyte solutions administered intravenously are seldom necessary in the later stages of burns when the patient usually can take sufficient fluids by mouth. However, if this is not possible, adequate fluid balance should be maintained by the use of intravenous physiologic electrolyte solution in adequate, but not excessive amounts. Glucose in saline may be substituted for the physiologic electrolyte solution, and at all times a high carbohydrate intake (100 to 200 Gm. a day) is advisable. In the presence of infection and low blood protein, urine volume may diminish and edema may appear. Strenuous forcing of electrolyte solution then may only increase edema. Moderate fluid intake, with feeding and whole blood transfusions, constitutes the logical treatment.

B. Oral Therapy: The immensely important problem of feeding during the often protracted period of infection and anemia cannot be adequately covered in this memorandum. Each case is an individual problem of dietetics and nursing. A full food intake including calories, vitamins, and especially protein, is essential.

1. Total fluid intake should be sufficient to keep the daily urine volume at 1,500 cc. or higher. If salt intake has been adequate, if body proteins are not too much depleted, and if heart and kidneys are functionally competent, this may require a fluid intake of from 3,000 to 4,000 cc. daily.

2. Salt (sodium chloride) intake should be maintained at approximately 10 Gm. daily, higher if the burn is extensive and if there is much exudate. Too much salt, however, promotes general tissue edema. Blood CO_2 tends to be somewhat low, and administration of some alkaline salt is advisable. The urine should be kept about neutral to litmus. The physiologic electrolyte solution, from 1,000 to 1,500 cc. daily, will often be useful during the first 5 to 10 days. Water can be given ad lib. after the fourth day.

3. Diet should be high in protein, carbohydrate, calories, and vitamins. In patients with large areas of third degree burns the protein intake should be increased as early as possible after the injury and certainly it should be increased by the end of the first week. Such protein intake should be of the following magnitude:

5 to 10 per cent body surface burned - 125 Gm. protein per day
10 to 20 per cent body surface burned - 125 to 200 Gm. protein per day
over 20 per cent body surface burned - 200 to 300 Gm. protein per day

The corresponding caloric intake should be approximately 3,000, 4,000, or 5,000 calories per day.

(a) An amino-acid preparation by mouth, from 100 to 200 Gm. per day, is an effective form of protein intake, but difficult to tolerate because of bad taste. Few patients can tolerate it for more than three or four days.

(b) An example of an adequate diet is the Evans diet, which is palatable by mouth but also can be given by gavage:

150 Gm. dehydrated meat powder
150 Gm. powdered whole milk
50 Gm. corn oil
150 Gm. sucrose
150 Gm. dextri-maltose
35 Gm. chocolate
1,000 Gm. water
(plus iron and vitamins, especially A, B, C and D.)

(c) Adequate vitamins and iron are essential in all unhealed burns. A suggested daily dosage in the case of third degree burns covering a 20 per cent area follows. Correspondingly smaller doses should be used for less severe burns.

Vitamin A	20,000 units
Vitamin B	
Thiamin chloride	40 mgm.
Riboflavin	20 mgm.
Ca pantothenate	20 mgm.
Pyridoxine HCl	5 mgm.
P-aminobenzoic acid	15 mgm.
Niacin amide	200 mgm.
Vitamin C	1 Gm.
Vitamin D	2,000 units
Vitamin K	1 mgm.
Ferrous sulphate	3 Gm.

(Shock Report #57, Feb. 9, '45, from the National Research Council and the Office of Scientific Research and Development.)

* * * * * *

Successful Rehabilitation of Filariasis Patients: The naval reconditioning center at Klamath Falls has achieved an excellent record in returning to unlimited duty status personnel with a history of recurrent filariasis. Personnel sent to this station, convalescent from malaria or filariasis, undergo a three-months' program of carefully supervised reconditioning. This is followed by a period of intense physical exertion, designed to induce reactivation of latent disease processes if at all possible. Only individuals completing the entire program without clinical evidence of filariasis are transferred to other duty. Under this regime, it has been possible to return virtually all personnel with a history of filariasis to unlimited duty in approximately three months. When a man is thus transferred, a notation is placed in his health record requesting his return to Klamath Falls should a clinical relapse occur.

Recently a number of individuals have been returned to Klamath Falls because of subjective complaints arising at the time of, or immediately preceding, reassignment to overseas duty. Examination of these men has revealed no evidence of filarial activity, and it is considered that no basis existed for their return to Klamath Falls. Medical officers concerned are therefore cautioned to study carefully personnel who present themselves with severe complaints of a type usually associated with filariasis, yet who lack objective signs of the disease. Strong personal motives may be found responsible for such complaints, and the return of such men to Klamath Falls is disadvantageous to the naval service and particularly to the program for the rehabilitation of filariasis cases.

The following may be listed as the criteria for return of individuals with a history of filariasis to Klamath Falls: enlarged, tender lymph nodes; edema; acute lymphangitis; thickened, tender spermatic cords; epididymitis or orchitis when other causative factors for these conditions have been ruled out. Lymphadenopathy without inflammation should not be considered evidence of an acute attack of filariasis and will be found frequently in individuals in whom filariasis has been entirely quiescent for many months. (Prof. Div., BuMed - G. C. Thomas)

* * * * * *

Transfusions; Whole Blood, Plasma, Serum Albumin: An informal report from the Pacific states that the value of whole blood in saving lives can not be overemphasized. In one operation over 700 pints were used at the division hospital without a reaction. Plasma and serum albumin were used in large quantities, especially in the battalion aid stations. Serum albumin is of particular value when given early, and it is believed that more of this should be used.

* * *

Anuria and Oliguria in Battle Casualties: Reports from activities in various theaters of war, particularly from the U. S. Army in Italy, have indicated that a significant number of fatal battle casualties have renal lesions and that in a large proportion of these the lesion was extensive enough to have been the principal cause of death. Inasmuch as many such patients show hemoglobinuria before anuria or oliguria supervenes, or their kidneys at autopsy show tubular degeneration and hemoglobin casts, the term "hemoglobinuric nephrosis" has been applied to this situation. Certain objection may be voiced to this term as nephrosis, in its usual clinical connotation, is not associated with the nitrogen retention which the hemoglobinuric patient almost invariably shows. In general, the clinical picture of the latter patient more nearly resembles that of an acute nephritis.

Many mechanisms are undoubtedly involved simultaneously in the production of these lesions. Some of these have been shown conclusively to be productive of clinical renal damage:

1. Renal ischemia during profound shock.
2. Incompatible transfusions in which a donor's cells are agglutinated by the patient's plasma.
3. Sulfonamide crystalluria.
4. Extensive burns of the body surface.

Other mechanisms have been found to produce anuria in experimental animals, but proof of such involvement in humans is lacking:

1. Deposition of metamyoglobin from injured muscles.
2. Deposition of methemoglobin in acidotic animals.

Finally, still other mechanisms may be involved. They are hypothetical and lack clear-cut demonstration in either human or animals, but can not be absolutely excluded:

1. Transfusion of blood which has been stored longer than is permissible with a particular diluent, or which has not been properly refrigerated. Examples are blood stored longer than 21 days in A.C.D. or blood which has been stored at a temperature above 20° C. for 24 hours.
2. Blood transfusions in which donor's plasma agglutinates patient's cells.
3. Formation and deposition of methemalbumin resulting from the hemoglobin liberated by any of the above mechanisms.
4. The mercurial preservative which may have been in the transfused plasma or albumin.

The clinical implications of this condition cannot be stated dogmatically. It may be pointed out, however, that this general type of renal lesion, even when severe, need not always result in death. There is some evidence to suggest that by proper supportive therapy the patient frequently can be carried through the acute phase of renal failure and will recover without residual renal injury. In a battle casualty suffering from shock, the renal ischemia parallels the degree of shock. To minimize renal injury, prompt restoration of renal blood flow is imperative. This may be accomplished best by administration of whole blood, plasma, or albumin or a combination of these. With restoration of normal blood volume, the greatest stimulus to return of normal renal function has been provided. Further assistance may then be given by prompt restoration of body fluids and electrolyte balance through administration of a solution (e.g., 0.6 per cent sodium chloride with either 0.5 per cent sodium bicarbonate or 0.6 per cent sodium lactate) which is alkalinizing in its effects. Excessive amounts of saline alone, in the presence of renal injury, may wash out bicarbonate, as the injured kidney does not retain needed base from sodium chloride as well as does the uninjured kidney. Administration of an alkaline solution, on the other hand, will correct any existing acidosis, preserve body bicarbonate and increase renal blood flow and efficiency of renal function.

In patients whose kidneys may have already been damaged by a period of shock or a course of sulfonamide therapy without sufficient accompanying fluids and alkalies, the decision to give a whole blood transfusion should include consideration of (a) the compatibility of donor's cells and patient's plasma, (b) the quality and age of the blood to be transfused, (c) the usefulness of available blood substitutes, (d) the prognosis if blood is not given and (e) the severity of existing renal damage. It is believed that in most battle casualties suffering from severe blood loss, the advantage afforded by the use of whole blood will

outweigh the risk involved. Nevertheless, it is possible to use whole blood excessively, and this vital program should not be abused. When hemoglobin and blood volume have been restored through administration of blood or blood substitutes, no useful purpose is served by further infusion of blood or its fractions. (Nav. Med. Res. Inst. & Nav. Med. School, Bethesda, Md.; E. L. Lozner and L. E. Farr, and S. T. Gibson)

* * * * * *

Epidemiology of Helminth Infestations: Among the medical problems which have arisen as a result of war conditions is the increase in helminthiasis. Certain infestations which were rarely encountered, such as filariasis and schistosomiasis, are now of major importance. The number of infestations by the more common helminths which are cosmopolitan in distribution is increasing wherever conditions of sanitation are poor. Such infestations may be noted first in natives and subsequently be discovered in military personnel.

The Intestinal Roundworms: Environmental conditions and routes of transmission are the most important factors in the control of infestation by roundworm. Hookworm and Strongyloides are acquired when the parasites in the larval stage penetrate the skin; infestation is prevented by avoiding contact with soil that has been contaminated by feces. Ascaris and Trichuris are acquired by ingestion of the ova in contaminated food and drink. The ova of both parasites require a period of maturation outside the body of the host. Enterobius is acquired by ingestion of ova which, in this species, do not require a period of maturation. Therefore, this may become a family or group disease as a result of carelessness in personal hygiene.

The Adult Tapeworms: Infestation with Taenia is acquired by the ingestion of improperly prepared meat containing the parasite in the larval stage. The larvae will be destroyed in meat by adequate cooking or refrigeration for six days at 15° F. The ova of Hymenolepis are infective when passed and do not require maturation; infection results from carelessness in personal hygiene. Infestations with Diphyllobothrium are acquired by eating raw or insufficiently cooked fish which contains the infective larvae.

Larval Tapeworms: The incidence of infestation with larval tapeworms is less frequent than is infestation by intestinal roundworms, adult tapeworms or flukes. Although the American Society of Tropical Medicine has recently emphasized the importance of hydatid disease, cases have not been recognized in military operations in Australia and New Zealand which are endemic areas. Only two larval tapeworms need be considered. Cysticercosis, caused by the larval form of Taenia solium, develops following the ingestion of eggs which have been passed in the feces of a human harboring the adult worm. The individual may thus infect himself or others through carelessness in personal

hygiene. Echinococcosis, due to the larval form of Echinococcus granulosis, is acquired by ingestion of eggs commonly present in the feces of the infected dog. The sheep is the normal host of the larva, man being accidentally infected by handling infected dogs or by ingesting contaminated food or drink. Treatment for these conditions is entirely surgical.

The Flukes: Schistosomiasis has been discussed in the Bumed News Letter of January 19, 1945, and in NavMed 642. The most important of the other flukes are summarized below. All are found in the Sino-Japanese area and all utilize mammals, including dogs and hogs, as the usual definitive host. Snails are first intermediate host and fish are the most usual second intermediary host.

PARASITE	SECOND INTERMEDIATE HOST
Lung Flukes:	
Paragonimus westermani	Fresh-water crab or crayfish
Liver Flukes:	
Clonorchis sinensis	Fresh-water fish
Opisthorchis felineus	Fresh-water fish
Fasciola hepatica	Aquatic vegetation
Intestinal Flukes:	
Fasciolopsis buski	Water plants
Heterophyes heterophyes	Brackish- and fresh-water fish
Metagonimus yokogawai	Fresh-water fish

The prevention of infestation by these flukes depends upon avoiding the ingestion of infested hosts. In endemic areas no fish, shellfish, and water plants should be eaten unless adequately cooked. (E. M. Bingham, T. K. Ruebush - Nav. Med. School, Bethesda, Md.)

* * *

Treatment of Helminth Infestations: Although claims of successful treatment for most worm infestations are legion, there is a certain unanimity of opinion as to the drug of choice for each. In order to correlate the most efficient therapy in respect to the drugs now available, the following table has been compiled:

NEMATODES (Roundworms)	Drug of Choice	Second Choice
Trichuris trichiura (whipworm)	Tetrachlorethylene	Caprokol
Enterobius vermicularis (pinworm)	Gentian violet medicinal	Caprokol

NEMATODES (Roundworms)	Drug of Choice	Second Choice
Ascaris lumbricoides (large roundworm)	Caprokol	
Ancylostoma duodenale (hookworm)	Tetrachlorethylene	Caprokol
Necator americanus (hookworm)	Tetrachlorethylene	Caprokol
Mixed ascaris and hookworm*	Caprokol	
Strongyloides stercoralis	Gentian violet medicinal	
Trichinella spiralis (trichinosis)	No specific drug	
TREMATODES (Flukes)		
Schistosoma haematobium (blood fluke)	Fuadin	Tartar emetic
Schistosoma mansoni (blood fluke)	Fuadin	Tartar emetic
Schistosoma japonicum (blood fluke)	Fuadin	Tartar emetic
Fasciolopsis buski (giant intestinal fluke)	Caprokol	Tetrachlor-ethylene
Other intestinal flukes	Caprokol	Tetrachlor-ethylene
Clonorchis sinensis (oriental liver fluke)	Gentian violet medicinal	Sodium antimony tartrate
Fasciola hepatica (sheep liver fluke)	Emetine hydro-chloride	
Other liver flukes	Gentian violet medicinal	Sodium antimony tartrate
Paragonimus westermanii (lung fluke)	Emetine hydro-chloride	Tartar emetic

*It is emphasized that, in mixed infestations of Ascaris and hookworm, the Ascariasis must be treated first with Caprokol; residual hookworm infestation may be treated later with tetrachlorethylene.

CESTODES (Tapeworms)	
Taenia saginata (beef tapeworm)	Oleoresin of aspidium
Taenia solium (pork tapeworm)	Oleoresin of aspidium
Diphyllobothrium latum (fish tapeworm)	Oleoresin of aspidium
Other tapeworms	Oleoresin of aspidium

All anthelminthics listed under "drug of choice" appear on the Supply Table, except oleoresin of aspidium which has been recommended for addition to the Table. Seven anthelminthic drugs appear in the Supply Catalog:

TETRACHLORETHYLENE, 1-cc. capsule.
HEXYLRESORCINOL (CAPROKOL), 0.2-gm. in capsule.
GENTIAN VIOLET, 0.0324-gm. enteric-coated tablet.
EMETINE HYDROCHLORIDE INJECTION, 0.0648-gm. in 1-cc. ampule.
FUADIN, 5-cc. ampule (for parenteral use).
CARBON TETRACHLORIDE, U.S.P.*
SANTONIN*, 0.032-gm. tablet.

*Not recommended as an anthelminthic because of occasional severe toxicity.

Opinions differ as to the most effective procedure to follow in administering each agent. The following methods have been satisfactory in most hands:

Tetrachlorethylene: The patient is purged the evening prior to treatment with 1 or 1-1/2 ounces of saturated solution of magnesium sulfate. Food is withheld on the day of treatment and three 1 cc. capsules of tetrachlorethylene are administered orally. Dosage for children is 3 minims for each year of age. Two hours later the patient is purged again, and no food is allowed until the bowels have moved. In the treatment of hookworm, expulsion of about 90 per cent of the worms can be expected; the few that remain will seldom be sufficient to produce symptoms if food intake is adequate. Tetrachlorethylene routine should not be repeated for at least a week.

Caprokol (Hexylresorcinol): Five 0.2 Gm. capsules are given in the morning to the fasting patient without a preliminary purge. Children receive 0.1 Gm. per year of age up to 10 years. Two hours later, a magnesium sulfate purge (1 to 2 ounces of saturated solution for adults) is given; food is withheld for 5 hours after administration of the drug.

Gentian Violet Medicinal: For Enterobius vermicularis, two 0.0324 Gm. enteric-coated tablets are given t.i.d. before meals for 8 days; rest one week, then repeat. For Strongyloides stercoralis, and the liver flukes, two 0.0324 Gm. tablets are administered t.i.d. before meals for 16 days. Children receive 0.01 Gm. daily for each year of age. Nausea and vomiting may require temporary discontinuation of the drug.

Oleoresin of Aspidium: This drug is contraindicated in the presence of marked anemia, in pregnancy and in renal, hepatic and cardiac diseases. It is usually dispensed in gelatin capsules containing 0.6 cc. A purge of 1 or 1-1/2 ounces of magnesium sulfate is given the night before. The following morning, the patient is kept in bed and is allowed only water, black coffee or clear tea.

At half-hour intervals, three doses of oleoresin of aspidium, 1.2 cc. each are administered orally in gelatin capsules. Two hours later the patient is purged again, and no food is allowed until a copious bowel movement occurs. Children are given a dosage of 1 minim for each year of age up to 12 years. All stools passed during the next 48 hours should be carefully examined for the scolex of the tapeworm which must be passed before cure is effected.

Emetine Hydrochloride: This drug should never be administered unless the cardiovascular system is normal and there can be careful supervision during the treatment. A dosage of 0.001 Gm. per kilogram of body weight, up to a maximum of the 0.0648 Gm. contained in the Supply Table ampule, is injected intramuscularly once daily for a maximum of five days.

Fuadin: This trivalent antimony salt is administered by intramuscular injection. On the first day 1.5 cc. is given, on the second day 3.5 cc., on the third day 5.0 cc., repeating this dosage every other day for seven injections. (Prof. Div., BuMed - A. G. Lueck)

* * * * * *

Muscle Hernias of Legs: Simon and Sacchet have reported observations on 12 patients with muscle hernias of the legs. Three of these patients had large solitary hernias of the tibialis anticus muscle, all due to direct trauma. In two cases the symptoms were severe enough to justify surgical repair, which was successfully accomplished by fascial transplant. Nine patients had multiple small hernias which developed spontaneously. Congenital weakness was a predisposing factor in some instances.

Hernia of a leg muscle is characterized as a soft, semifluctuant swelling, which increases in size when the limb is dependent or the muscle is relaxed, and which decreases in size or disappears when the muscle involved is contracted. It is reducible on pressure when a distinct fascial defect may be palpated. There are three types: (1) those due presumably to congenital defect; (2) those due to direct trauma, as fractures, lacerations and operations, or to indirect muscle violence. These are usually single and large and produce symptoms for which surgery is indicated; (3) those of idiopathic type, which appear spontaneously, particularly after muscular activity is increased. These are usually small, are often multiple, present less severe or no symptoms and frequently require no treatment. Muscle hernias occur quite frequently, especially among young active males. Differentiation between muscle hernias and varicosities is often difficult. Other conditions to be differentiated are localized varicose veins, lipomata, angiomata and other tumors.

Surgical treatment, when indicated, consists in reduction of the herniated muscle and repair of the defect, usually by fascial transplant or by suture. The results are usually good. The authors emphasize the importance of careful repair of fascial defects arising from trauma, or after operations, in order to prevent later development of hernia. (Am. J. Surg., Jan. '45.)

* * * * * *

The Use of Papaverine in Coronary Artery Disease: Since the very favorable report by Katz on the efficacy of papaverine in large dosage in the treatment of angina pectoris, Swanson has employed papaverine in treating twelve patients with varying degrees of coronary insufficiency. Their ages varied from 42 to 74 years. Four of the twelve had angina on effort, but no evidence of coronary occlusion that could be determined either from the history or electrocardiographic examination. Eight patients gave a history suggesting healed coronary occlusions which had been confirmed by observation and/or typical changes in the electrocardiographic pattern. The duration of symptoms varied from two months to one year. All of the patients complained that their tolerance for activity had been much reduced by the anginal pains; three of them had been bedridden by the severity and frequency of the attacks.

Papaverine hydrochloride was administered orally in doses of one and one-half grains four times daily. Eleven of the twelve patients appeared to be definitely improved by the drug. One patient did not show improvement, and the administration of the drug had to be stopped because of excessive sleepiness. In none of the other cases was oversedation noted as a disturbing side-effect. No suggestion of addiction was observed upon cessation of the treatment. Two of the bedridden patients were improved so that they could be up sufficiently to care for themselves at home, after approximately three and five weeks of treatment, respectively. Two of the others who had been forced by their attacks to refrain from all manual labor were able to resume light work after one and three weeks of papaverine administration. The remainder of the eleven patients who improved stated that they had fewer attacks of pain and could walk farther as measurement of their improvement.

Since all of these patients had previously been treated by conventional methods, Swanson believes that the high proportion of improvement in patients in this small series treated with papaverine is significant. (J. Lab. & Clin. Med., April '45.)

* * * * * *

Verification Tests in Serodiagnosis of Syphilis: The verification test in serodiagnosis of syphilis was noted in the Bumed News Letter of August 20, 1943. Rein and Callender have reviewed the literature concerning the several

methods developed for the differentiation of true and false-positive reactions in serologic tests for syphilis. They are of the opinion that the average serologist has not been able to distinguish consistently between true and false-positive reactions by the use of any verification test yet devised, that for the present these tests should be considered as being in the experimental stage and that further investigative work on the subject is necessary. At present, the final diagnosis of a syphilitic infection in doubtful cases should depend on the ensemble of available data, including (1) history, (2) physical examination, (3) radiologic examinations of the heart and aorta, (4) spinal fluid examination, (5) examination of contacts, marital partners, brothers and sisters, and (6) repeated serologic examinations in the same and other laboratories. Additional laboratory examinations should be made, including blood counts, blood spreads, heterophil antibody tests, sedimentation rates, complement-fixation tests, precipitation and agglutination tests, and albumin-globulin ratio studies, in order to rule out non-syphilitic diseases which may cause false-positive serologic reactions.

The following requirements are set up as criteria of the value of any verification test intended for routine use:

1. Sera from syphilitic individuals with positive serologic tests should always give a syphilitic type of verification reaction.
2. Sera from non-syphilitic individuals with positive serologic tests should always give the false-positive type of verification reaction.
3. The diagnosis of syphilis should be established in persons who consistently give the biologic false-positive type of verification reaction on repeated examination.

The conclusion is stated that any new verification test should be subjected to critical evaluation by independent workers before it is adopted as a routine procedure for the differentiation between true and false-positive serologic reactions. (V. D. Information, April '45)

* * * * * *

Thorotrast (Thorium Dioxide): The discovery that thorium is retained by the liver when thorotrast is administered intravenously has led to its use by roentgenologists as a means of visualizing lesions of the liver.

However, the possibility that the radioactivity of thorium may produce radiation injuries to the liver has averted a wide use of this method.

Detailed studies by Stenstrom in 1941 indicate that, while there is some excretion of the radioactive decay products, thorium is retained indefinitely. Although individuals given thorotrast eight years ago still show no ill effects

attributable to it, radiation injuries are notoriously slow in appearing. It follows, therefore, that a most conservative attitude is still appropriate regarding the use of thorotrast. (C. F. Behrens, Nav. Hosp., Bethesda, Md.)

* * * * * *

Reports of Excess Property from Overseas Activities: Many Medical Department activities located beyond the continental limits of the United States continue to report excess property to the Materiel Division, Bureau of Medicine and Surgery, for disposal or redistribution. Property Disposition Directive No. 6, Revision No. 1, dated 17 January 1945, outlines the method of handling excess property at such stations. The method now in force for the disposition of excess property overseas is to report this property to the Area or Force Commander who will decide whether or not the material is needed elsewhere within the area or force. The Materiel Division returns reports of excess property which are received from activities located beyond the continental limits of the United States without acting upon them. Loss of time may be avoided by employing the proper procedure. (Mat. Div., BuMed - K. C. Melhorn)

* * * * * *

Information Needed on Oliguria in Battle Casualties: According to recent reports from the field, some severely injured men develop oliguria or anuria from 8 to 12 days after injury. This follows a brief period of apparent clinical improvement and recovery from shock. The importance of renal damage in battle casualties and the probable mechanisms involved have been discussed on page 11 of this issue. It is apparent that more information on the problem is needed. Medical officers in the forward areas are therefore urged to make the following contributions whenever possible:

1. Brief reports addressed to BuMed, giving essential data on cases of post-traumatic oliguria or anuria with reference to: (a) severity and type of injury; (b) administration of whole blood, plasma and albumin (amounts of each used); (c) use of sulfonamide, if any; (d) interval between injury and onset of oliguria; (e) therapy used in treating oliguria; (f) outcome.

2. Sections of the kidneys of fatal cases prepared and shipped to MedOfCom, Naval Medical School, National Naval Medical Center, Bethesda, Maryland, in accordance with the detailed instructions of BuMed ltr A11/P3-4(041) dated 15 April 1943, and reprinted in Bumed News Letter of 30 April 1943. In fatal cases, the clinical history and autopsy protocol should accompany the specimen in the mailing container; in these instances it will be unnecessary to send a separate report to BuMed.

Penicillin Treatment of Bone Infections: A discussion of the penicillin therapy of chronic osteomyelitis appeared in the Bumed News Letter of January 5, 1945. Naffziger et al have reported a study of 46 patients who had infections involving bone and who were treated with penicillin intramuscularly or locally or by both methods. Prolonged systemic treatment with penicillin (from 3 to 8 weeks) often was needed to control infections involving the bone. Prompt recurrence of infection occurred in several cases in which shorter periods of treatment were used. Contamination of wounds with penicillin-resistant organisms appeared to prolong drainage but did not prevent healing when the predominant pathogenic organism was sensitive to penicillin. In some cases evacuation of well localized abscesses by aspiration, followed by local instillation of penicillin, was preferable to incision with drainage. Systemic penicillin therapy appeared to be the most important factor in controlling infections of bone, but the control of infection and healing appeared to be much more prompt in cases in which the zone of infection was accessible to supplementary local treatment with penicillin. (OEMcmr-431 - Naffziger et al, Univ. of Calif. - CMR Bulletin #22)

* * * * * *

The Use of "Alginate Solution" in Denture Work: The present supply of tin-foil for use in processing denture bases contains seventy per cent lead. The fact that lead reacts with monomeric methylmethacrylate accounts for the fact that denture bases discolor after a short period of use. This tin-foil is undesirable also because it is not nearly as malleable as was the former supply. In adapting it to casts it tears easily, and it cannot be burnished sufficiently to eliminate folds. Thus, it would seem desirable to replace the tin-foil formerly standard for use in the Naval Dental Corps. Most foil substitutes, in the form of different types of solutions, have not proved themselves of sufficient value for adoption.

These facts led to an investigation of the most efficient manner in which to use the "Alginate Solution" now available on the Supply Table (Navy Dental Stock No. S11-005). The results of this study indicate that the proper use of this solution may result in more satisfactory work and greater efficiency in prosthetic dentistry in the Navy.

It is known that cellophane alone was an undesirable covering for a cast during processing of denture bases. It caused wrinkles to appear in the bases, and it did not permit the material to flow freely into the deep peripheral areas of the cast. This caused a shortened or under-extended periphery in the denture base. It has been noted that for convenience in test packing, deep peripheral areas are sometimes packed separately from the saddle areas. The cellophane used in testing them separated the periphery from the rest of the

base. Even in cases where the periphery and saddle areas could be packed together, undesirable wrinkles still appeared on the surface of the finished denture base. This was due to the fact that, under pressure, the cellophane would not slip to an even contour on the dry base.

A case was processed using a combination of cellophane and the alginate solution; the usual amount of alginate in the solution was doubled. After the case was cured, it was opened and the cellophane easily removed. The tissue surface of the denture base was as highly polished and free from wrinkles as though high-grade tin-foil had been used. The adaptation to the peripheries was equally successful.

There is no need to refinish or polish the peripheries since accuracy in these areas is obtained by this method. (Nav. Dental School, Bethesda, Md. - L. W. Colton and L. W. Harris)

* * * * * *

Behavior of Schwann Cells in Tissue Culture: Observations have been made on the behavior of Schwann cells during culture of more than 1,000 nerve fragments from rats. The free Schwann cells undergo characteristic transformation depending on the ultrastructural configuration of the medium. Along linear (fibrous) surfaces they remain filamentous, a shape predisposing them to serve as guides for axons. Along planar surfaces, they are transformed into typical macrophages by three alternative modes, all of which lead to an ameboid, mitotically active and highly phagocytic cell. These transformations, which have been observed in many thousands of cells, indicate that the majority of macrophages appearing in distal nerve stumps during Wallerian degeneration are, in reality, transformed Schwann cells. Their active participation in the ingestion and digestion of myelin fragments has been proved by observation of the living cultures. (OEMcmr-221 - Weiss and Wang, Univ. of Chicago. Ms. for publication. CMR Bulletin #22)

* * * * * *

Erratum: Metric Equivalents: In the Bumed News Letter of May 11, 1945, on Page 12, Column 2, 3/4 grain - 16 milligrams (mg.) should read 1/4 grain - 16 milligrams (mg.)

* * * * * *

To: All Ships and Stations. Op13-1D-psp
Serial 148413
Subj: U. S. Naval Convalescent Hospital, Asbury Park, New Jersey - Establishment of. 3 19 212
31 Mar 1945

1. The facilities of the former U. S. Naval Reserve Premidshipmen's School at Asbury Park, New Jersey, have been transferred to the Bureau of Medicine and Surgery for hospital purposes and are hereby established and designated:

U. S. Naval Convalescent Hospital
Asbury Park, New Jersey.

This is an activity of the Third Naval District.

2. Bureaus and offices concerned take necessary action.

--SecNav. James Forrestal.

* * * * * *

ALNAV 58

Subj: Casualty Reports. BuMed. 31 Mar 1945

Alnav 162-42 hereby amended. Original dispatches from ships and stations within continental United States reporting deaths shall contain all information required by article 908(2), Navy Regulations.

--SecNav. James Forrestal.

* * * * * *

To: All Ships and Stations. BuMed-C-LET
P6-4
Subj: Deaths Overseas; Care of Remains; Report of Burial. 26 Feb 1945

Encl: (A) Copy of Report of Burial (NavMed 601).

1. The return from overseas of all Army, Navy, Marine Corps, Coast Guard and civilian dead, upon cessation of hostilities, will be the responsibllity of the Graves Registration Service of the U. S. Army Service Force. It is desired that all naval activities shall cooperate fully with that Service.

2. To provide the Army Graves Registration Service with accurate records of burials of all military or civilian dead buried by Navy, Marine or Coast Guard personnel, it is directed that NavMed Form 601 (Report of Burial) be submitted in triplicate (additional copy for allied and enemy dead) to the Bureau of Medicine and Surgery in all cases of burial at sea or burial or reburial ashore beyond the continental limits of the United States, including Alaska.

3. In addition to NavMed Form 601, officers in charge of Navy, Marine Corps and Coast Guard cemeteries beyond the continental United States, including Alaska, are directed to forward to the Bureau of Medicine and Surgery:

(a) A letter report, in duplicate, of all burials to date, giving name and location of cemetery, full name of deceased, file or service number (if known), rank or rate, organization, date of burial, and plot, row, and grave number. Burial of unidentified remains shall be reported as unidentified, and assigned consecutive numbers with a prefix "X" (e.g., X-1, X-2, etc.). This "X" number will be used in all correspondence regarding burial. Cemeteries where burials were made prior to 7 December 1941 shall list only those buried subsequent to 7 December 1941.

(b) A monthly report, in duplicate, listing all burials since previous report, giving information as listed in paragraph 3 (a).

(c) A map or blueprint of cemetery, in triplicate. Enter name of person buried in each grave. Number consecutively all graves, including those in which no burials have been made, and provide space for entry of names after records of burials are received in the Bureau.

(d) Letter report giving following information:

(1) Is cemetery land government-owned or leased, and what is acreage involved?

(2) If leased, is there a clause requiring perpetual care?

(3) What medical activity is charged with responsibility for maintenance and upkeep, and what is distance from cemetery?

4. All efforts should be made to avoid isolated burials. In case of isolated burials, the grave shall be well marked, map prepared giving location of grave, and proper authorities notified, so when conditions warrant, the remains may be removed to the nearest appropriate cemetery. NavMed Form 601 shall be prepared for both original burial and reburial.

5. A supply of NavMed Form 601 will be furnished when received from the printer, without requisition, to all ships and stations outside of the continental United States, including Alaska. Additional supplies are to be requisitioned from the naval medical supply depots in the usual manner (Stock No. S16-905; NavMed No. 601; Item: REPORT OF BURIAL; Unit: 50 in pad). In an emergency, a supply of War Department QMC Form 1042 (Report of Interment), which is similar, may be obtained from the nearest Army quartermaster depot or grave registration unit. Pending receipt of the initial supply, the form shall be reproduced locally as far as practical, as illustrated by enclosure, and reporting of burials started immediately.

6. War Department Technical Manual 10-630 (TM 10-630), War Department Technical Bulletin 10-630-2(TB 10-630-2) and Army Regulations No. 30-1810 (AR 30-1810) contain information and instruction for Army grave registration units. These publications may be obtained from the nearest Army quartermaster depot or grave registration unit. --BuMed. W. J. C. Agnew.

REPORT OF BURIAL

NAVMED—601 (3-45)

INSTRUCTIONS.—Forward original and two copies for U. S. dead (additional copy for allied and enemy dead) to BuMed on all burials or reburials beyond the continental United States, including Alaska, or at sea. In the field, armed guard crews, etc., forward through headquarters or activity carrying records, for checking with casualty reports.

If any of the required facts are unknown, so state. List only personal effects found on the body. In burial at sea, give areas as—Hawaiian, Alaskan, etc. Assign consecutive numbers with a prefix "X" to all unidentified remains. This "X" number shall be used in all correspondence regarding burial.

SHIP OR STATION ATTACHED AT TIME OF DEATH ---------- DATE REPORT FILLED OUT ----------

COPY OF IDENTIFICATION TAG	NAME (*Last*) (*First*) (*Middle*)		
	FILE OR SERVICE NO.	RANK OR RATE	BRANCH OF SERVICE
	CORPS OR RESERVE CLASSIFICATION		RACE

CAUSE OF DEATH	PLACE OF DEATH
NAME OF NEXT OF KIN (*If known*)	ADDRESS OF NEXT OF KIN (*If known*)
DATE OF DEATH	DATE OF BURIAL
NAME OF CEMETERY	LOCATION OF CEMETERY

GRAVE MARKER TYPE	PLOT NO.	ROW NO.	GRAVE NO.
BURIED AT SEA (*Date*)		AREA	
TYPE OF RELIGIOUS CEREMONY		RELIGION OF DECEASED	

IDENTIFICATION TAGS FOUND ON BODY ☐ 1 ☐ 2 ☐ NONE

IF NO IDENTIFICATION TAGS, OTHER MEANS USED TO IDENTIFY BODY (*Identification cards, letters, etc.*)

COMPLETE DENTAL CHART ON REVERSE ☐ Yes ☐ No

COMPLETE FINGERPRINT CHART OF BOTH HANDS ON REVERSE ☐ Yes ☐ No

LIST OF PERSONAL EFFECTS FOUND ON BODY AND DISPOSITION OF SAME

IDENTIFICATION TAG BURIED WITH BODY ☐ Yes ☐ No

IDENTIFICATION TAG ATTACHED TO MARKER ☐ Yes ☐ No

IF IDENTIFICATION TAGS NOT PRESENT, WHAT OTHER IDENTIFICATION DATA BURIED WITH BODY AND IN WHAT KIND OF CONTAINER

IF BURIAL OTHER THAN ESTABLISHED CEMETERY, FURNISH SKETCH AND MAP REFERENCES ON REVERSE

Bodies Buried on Either Side

BODY ON LEFT, NAME (*Last, first, middle*)	RANK OR RATE	FILE OR SERVICE NO.	GRAVE NO.
BODY ON RIGHT, NAME (*Last, first, middle*)	RANK OR RATE	FILE OR SERVICE NO.	GRAVE NO.

PERSON REPORTING BURIAL (*Name*) (*Rank or rate*)	PERSON CONDUCTING BURIAL RITES
IN REBURIAL, GIVE LOCATION OF PREVIOUS BURIAL	VERIFIED AND FORWARDED (*Name*) (*Rank*) (*Title*)

16—43683-1

L. THUMB

L. INDEX

L. MIDDLE

L. RING

L. LITTLE

R. THUMB

R. INDEX

R. MIDDLE

R. RING

R. LITTLE

When unidentified, take rolled impression of fingerprints. Cleanse fingers of all foreign matter, without smudging. Obtain sharp, clear contrast of inked ridges and intervening space. Roll finger to include crease of first joint through 180° on inked surface. Record impression of same motion. Do not overlink.

INSTRUCTIONS FOR BURIAL

1. IDENTIFICATION, PREPARATION OF BODY, BURIAL AND MARKINGS OF GRAVES OF ISOLATED BURIALS. Have body examined to establish IDENTITY. If body is unidentified, take four (4) sets of fingerprints of all available fingers. Complete the following:

ESTIMATED HEIGHT	ESTIMATED WEIGHT	COLOR OF EYES	COLOR OF HAIR

BIRTHMARKS, SCARS, OR TATTOOS

LAUNDRY MARKS	WEAPON AND SERIAL No.

(If actual weight and height are used, delete estimated)

Wrap and tie body securely in a blanket, pad covering, canvas or other suitable substance. Dig grave to five feet or in hasty burials, to sufficient depth to prevent destruction of body or loss of identity. Place only one body in grave. Securely fasten one identification tag to body. Remove other identification tag and attach to grave marker (when body is disinterred or properly recorded, remove and forward to BuPers, Marine Corps, or Coast Guard, as indicated). If no tag is present, make a notation with pencil of identifying data on form in duplicate, place in bottle, canteen, spent shell or other available container which can be made watertight, bury one with remains and the other, one (1) foot below grave marker. If no tag is available, write identifying data on marker. When pegs are not available, use other suitable means to identify grave as a military grave.

2. LOCATION OF GRAVE: Report burials in established cemeteries by plot, row, and grave number. For all other burials, prepare sketch in space provided below; and give location by means of map references, or by reference to prominent, permanent landmarks. Information must be specific, accurate, complete. Stand at foot of grave facing head to determine bodies buried to the left and right.

If the body is otherwise unidentified or fingerprints unobtainable, chart the dental conditions in conformity with instructions in MMD (1942, 1938-43 Ed. para. 2318 (b) (1) & (2)) (1945 Ed. para. 2234.1 & .2). This must be accurate.

CHARTING EXAMPLE: (Chart Cavities in BLACK; otherwise use RED) Tooth No. 1, missing; No. 2, gold inlay and two silver fillings; No. 3, full gold crown; No. 4, cavity; No. 5, two porcelain or temporary fillings; Nos. 6, 7, 8, gold fixed bridge supplying missing tooth No. 7; No. 9, porcelain crown (outlined).

Missing teeth Nos. _____

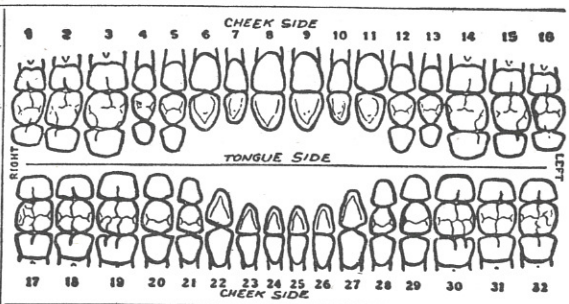
Occlusion (*Type of*) _____

Malposed teeth (*Describe*) _____

Removable appliances _____

Other defects _____

Remarks _____



COMPARISON WITH DECEASED NAVMED-H-4 (DENTAL RECORD) REVEALS:

☐ POSITIVE IDENTITY ☐ SOME RESEMBLANCE ☐ NO RESEMBLANCE

(*Signature of dental examiner*) (*Rank or rate*)

N

REPORT OF BURIAL (*Back*) NAVMED-601 (3-45)

To: All Ships and Stations. BuMed-A-EC

Subj: Prevention of Disease. 31 Mar 1945

1. All medical officers are directed to pay special attention to the prevention of disease and to the constant exercise of communicable-disease control measures, and are cautioned against lessening their responsibilities toward disease prevention by depending too much upon the use of sulfonamide drugs, penicillin, the control of bacterial content of the air by glycol vapors and ultraviolet, use of DDT, and upon other new outstanding advances in medicine.

2. The establishment of epidemiology units, malaria-control units, and other special hygienic and public-health activities must in no manner be considered as relieving medical officers of any responsibility in disease prevention.

3. Senior medical officers of all Navy and Marine Corps activities to which large numbers of personnel are attached are directed to utilize epidemiology units for the purpose for which they were created, and in addition thereto to assign the senior medical officer member of this unit or, in the absence of such a unit, an experienced medical officer to special duty in charge of prevention of disease measures on the station, responsible to the senior medical officer.

4. Attention of all medical officers is invited to the following factors which, if disregarded, might be responsible for the spread of communicable diseases:

(a) Overcrowding.
(b) Proper spacing of beds.
(c) Head-to-foot sleeping.
(d) Proper dust control in cleaning wards, barracks, and compartments.
(e) Proper care and sterilization of bedding, including mattresses. This should include periodic airing and sunning.
(f) Maintenance of high standards of mess sanitation with great emphasis on food handling and mess-gear sterilization.
(g) Periodic physical examination of food handlers.
(h) Periodic sanitary inspections.
(i) Proper refrigeration.
(j) Proper disposal of wastes.
(k) Periodic bacteriological examination of water and dairy products.
(l) Proper safeguards against transmission of insect-borne diseases.

5. The professional awareness toward being constantly alert to the part played by "carriers" in the transmission of certain diseases, and to the other factors which are known to have caused epidemics is of paramount importance.

6. In hospitals, dispensaries, and sick bays, constant vigilance must be exercised to insure that the recognized measures for the prevention of cross infections (respiratory, wound, etc.) are applied at all times.

7. A pamphlet for the use of Medical Department personnel in which the importance of all simple measures definitely contributing toward the control of communicable disease is in the process of preparation. Medical officers are directed immediately to make every effort to prevent disease and not delay action or recommendation to commanding officers until this publication is received. --BuMed. Ross T. McIntire.

* * * * * *

To: All Ships and Stations.

BuMed-Y-HS
A16/P3-3
13 Apr 1945

Subj: Epidemiology Units, Functions of.

1. Information received in this Bureau indicates that the functions of epidemiology units are not fully appreciated and that their special training is not always used effectively.

2. It is intended that personnel in these units be used for the prevention and control of disease and not for general assignments except in extreme emergencies.

3. Epidemiology units were created and strategically placed to supplement local medical activities in solving problems in preventive medicine. It is also expected that they shall work in close association with the Navy Commissary and Public Works Departments, the U.S. Public Health Service, military agencies, and the health departments of various States, cities, Territories, and foreign countries.

4. The personnel of these units are especially trained in preventive medicine and sanitation. This training equips them to render invaluable services in:

(a) Investigation of outbreaks of communicable diseases.

(b) Surveys for disease vectors and human carriers of respiratory and enteric pathogens.

(c) The sanitary control of food, water, waste disposal, living quarters, swimming pools, and bathing sites.

(d) General sanitary inspections and surveys.

(e) Dairy inspection and testing of milk and other dairy products.

5. The most important function of epidemiology units is the prevention of epidemic conditions.

6. It is the desire of this Bureau that maximum use be made of the epidemiology units in the field of preventive medicine. These units are to be immediately available for special epidemiological investigation at naval activities upon the recommendation of the Bureau or upon request to the district commandant or area commander. --BuMed. W. J. C. Agnew.

* * * * * *

To: All Ships and Stations. Op13-1D-psp Serial 212813

Subj: Medical Department Facilities at the Naval Training Center, Farragut, Idaho. 19 Apr 1945

1. The facilities of the Naval Training Center, Farragut, Idaho, known as Camp Bennion, including the land, buildings and equipment constituting such camp, are hereby transferred to the U. S. Naval Hospital, Farragut, Idaho.

2. Bureaus and offices concerned take necessary action.

--SecNav. James Forrestal.

* * * * * *

RESTRICTED

To: All Ships and Stations. Op13-1D-psp Serial 213913

Subj: U. S. Naval Military Government Hospitals, No. 203 Guam and No. 204 Tinian - Establishment of. 25 Apr 1945

1. The Military Government medical facilities for the care of civilians on Guam are hereby established under a medical officer in command and designated as follows:

U. S. Naval Military Government Hospital No. 203, Guam, Marianas Islands.

2. The Military Government medical facilities for the care of civilians on Tinian are hereby established under a medical officer in command and designated as follows:

U. S. Naval Military Government Hospital No. 204, Tinian, Marianas Islands.

3. Bureaus and offices concerned take necessary action.

SecNav. James Forrestal.

* * * * * *

ALNAV 73 BuMed 18 Apr 1945

Subj: Pratique and Quarantine

New U. S. Public Health Service regulations do not require a vessel which has been given free pratique in Alaska, Territory of Hawaii, Puerto Rico or Virgin Islands to clear quarantine upon arrival at any other port of the continental United States, its Territories, or possessions. Such ships are subject only to coastwise regulations provided they have not entered a foreign port after receiving pratique.

--SecNav. James Forrestal.

* * * * * *

ALNAV 413 BuMed 24 Apr 1945

Subj: Discontinuance of Stock S1-3531 Plasma.

The use and issue of stock number S1-3531 Plasma Normal Human Dried 500 cc pkg. manufactured by Sharp and Dohme, lot number 288395, expiration date March 1947, shall be discontinued immediately pending investigation and instructions. --SecNav. James Forrestal.

* * * * * *

ALNAV 79 BuPers 26 Apr 1945

Subj: Awarding of Purple Heart.

Refs: (a) General Order 186, of 21 Jan 1943.
(b) Alnav 26-44; AS&SL Jan-Jun 1944, 44-78, p. 95.

It has come to the attention of the Navy Department that numerous cases have occurred wherein an undue interval of time has elapsed between the presentation of the Purple Heart and the incident for which it is awarded. To obviate this, fleet commanders are hereby authorized to delegate authority to award the Purple Heart to commanding officers of such hospital ships, advance bases, or other hospitals within their commands as they may deem necessary for this purpose.

Authority to award the Purple Heart is hereby delegated to commanding officers of all hospitals within the continental limits of the United States or otherwise not under the command of forces afloat.

It is considered that General Order No. 186 and other instructions amply provide for the prompt award of the Purple Heart to personnel who are not transferred to a hospital or hospital ship by reason of injuries warranting the award.

Immediately upon the arrival of a patient, whose diagnosis or accompanying documents or other circumstances indicate that he is entitled to the Purple Heart, at a hospital ship or other hospital whose commanding officer is authorized to make the award, such commanding officer will ascertain from the patient, accompanying documents, or other means available whether or not the patient has received his Purple Heart and, if not, make the award and presentation. Suitable entry will be made on records accompanying the patient. Each award will be accompanied by a certificate stating that the award is made by authority delegated to the awarding authority and giving the date of injury and general geographical location where received.

For the purpose of proper record keeping in the Navy Department each officer having authority to award the Purple Heart will forward on the last day of each month, in triplicate, to the Bureau of Naval Personnel, the Commandant,

United States Marine Corps, and the Commandant, United States Coast Guard, as appropriate, a list of Purple Hearts awarded showing full name and rank or rating of recipient, the date of award, date of injury, character of injury, and general geographic location in which injury was received. Additional copies will be forwarded as fleet commanders may direct.

Fleet commanders will issue necessary instructions to avoid duplication of awards.

The policy set forth in reference (b) will continue as the basis for the award of the Purple Heart. Posthumous awards will continue to be made and forwarded to the next of kin by the Navy Department.

Conflicting portions of General Order No. 186 are hereby canceled.

Fleet commanders will furnish commanding officers to whom authority is delegated in accordance with the above with a supply of Purple Heart medals.

The Bureau of Naval Personnel will furnish such hospitals within the continental limits of the United States as are designated by the Bureau of Medicine and Surgery with a supply of Purple Hearts. --SecNav. Ralph A. Bard.

* * * * * *

To: All Ships and Stations. BuMed-RP-MDM P3-3/P3-1

Subj: Roentgenographic Examinations of the Chest of Certain Officer Personnel upon Reporting for Active Duty. 26 Apr 1945

Ref: (a) BuMed ltr BuMed-Y-DFS, P3-3/P3-1(054-40), of 4 Jan 1945; N. D. Bul. of 31 Jan 1945, 45-83.

1. Paragraph 2 of the reference directive states in part that "Roentgenographic examination of the chest shall be made as a part of the physical examination to determine physical fitness for original entry into the service and for active duty". It has come to the attention of this Bureau that the roentgenographic examination cannot be obtained for approximately one-third of the applicants for appointment and commission at the time they are processed in the offices of naval officer procurement. The responsibility, therefore, for obtaining subject examination in these cases rests with the medical officer who examines such individuals to determine their physical fitness for active duty. In the event such medical officers are unable to obtain chest X-ray in the cases of officer personnel at the time they report for active duty they shall, provided the officer has not had a recent chest X-ray, make the following entry on a NavMed Form H-8 (Medical History Sheet) in the health record of the officer concerned:

NOTE Reference: BuMed ltr BuMed-Y-DFS, P3-3/P3-1(054-40) dated 4 Jan 1945. Chest X-ray study has NOT been conducted in this case. It is to be conducted at the first opportunity and a report thereof forwarded to the Bureau of Medicine and Surgery.

--BuMed. Ross T. McIntire.

CIRCULAR LETTER NO. 86-45

To: All Ships and Stations.

Pers-329-GL
A2-3
30 Mar 1945

Subj: Naval Flight Nurses, Insignia for.

Ref: (a) U. S. Navy Uniform Regulations, 1941.

Encl: (A) Photograph of insignia for naval flight nurses.

1. The Secretary of the Navy has approved an insignia for naval flight nurses, as shown in enclosure (A). Reference (a) therefore will be corrected as follows:

After article 9-53 add a new heading and paragraph as follows:

NURSE CORPS

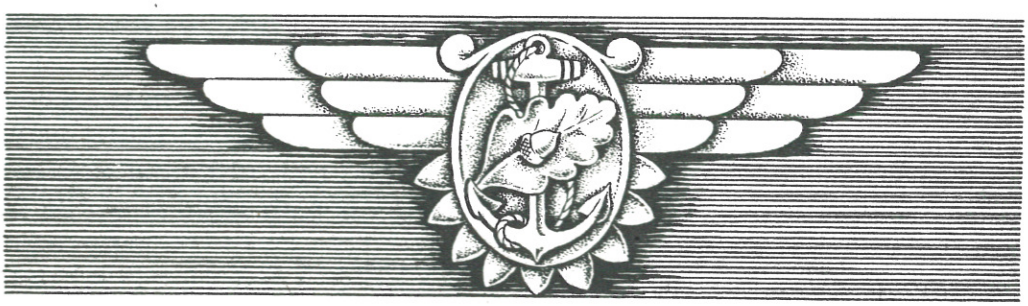
9-54. Aviation Insignia, Naval Flight Nurse.--Nurses who have been designated as Naval Flight Nurses shall wear the following insignia:

Gold-plated metal pin, winged, with slightly convex oval crest with appropriate embossed rounded edge and scroll. The central device shall be surcharged with gold anchor, gold spread oak leaf and silver acorn, symbol of the Nurse Corps insignia. The metal pin shall be of dull finish. The insignia shall measure 2'' from tip to tip of the wings; oval crest 9/16'' in vertical dimension and 7/16'' in width; oak leaf 13/32'' in length, 7/32'' in width, to be diagonally mounted surcharged on the anchor; silver acorn 1/8''in length surmounted on oak leaf.

The above insignia shall be worn until the designation "Flight Nurse" is revoked.

--BuPers. L. E. Denfeld.

ENCLOSURE (A)



NAVAL FLIGHT NURSE INSIGNIA

* * * * * *

To: All Ships and Stations.

BuMed-Y-DEC
P3-4/JJ57
19 Apr 1945

Subj: Methyl-Alcohol Poisoning.

1. Despite precautions taken to safeguard against poisoning from methyl (wood) alcohol, death, blindness, and other disabilities among naval and Marine Corps personnel have increased sharply during 1944 as a result of drinking this poison. In view of the extremely toxic character of methyl alcohol, and the tendency to confuse it with ethyl (grain) alcohol, the most vigorous efforts to prevent this type of poisoning must be undertaken.

2. Methyl alcohol, known also as methanol, or as wood alcohol (obtained by the destructive distillation of wood), is colorless and has an odor and taste similar to that of ethyl alcohol. It is commonly used as duplicator fluid, "canned heat," paint thinner, cleaner and as an antifreeze.

3. Methyl alcohol can enter the body by any of three ways: (1) By inhalation of the vapor, (2) by absorption through the skin, and (3) by swallowing. Of these, the last far outweighs either of the others as a cause of disability or death. One to five ounces taken internally can cause death and one-half to two ounces can cause permanent total blindness. Repeated ingestion of small amounts has a cumulative effect upon the internal organs, and may ultimately lead to death or blindness. In handling methyl alcohol care must be taken to avoid breathing heavy concentrations of the vapors, and to avoid contact of methyl alcohol with the skin.

4. Deaths have occurred in the Pacific from the use as a beverage of Japanese methyl alcohol by U. S. naval and Marine Corps personnel. The containers of such methyl alcohol are labeled only in Japanese, or may be deliberately mislabeled in English. Under no circumstances should such material be taken internally.

5. It is recommended that the following precautions be taken by all ships and stations in handling, storing, issuing and using methyl alcohol:

(a) Make clear to all naval and Marine Corps personnel the distinction between methyl alcohol and ethyl alcohol. Methyl alcohol is a dangerous poison and must be handled as such.

(b) Maintain a close inventory of all pure methyl alcohol and any commercial product containing methyl alcohol. Release for use only the amount required, and at the time needed, to perform a specific job.

(c) Whenever possible substitute other less toxic solvents for methyl alcohol or products containing methyl alcohol.

(d) Add to methyl alcohol, if practicable, an ingredient such as ethyl mercaptan, kerosene, or white gasoline to give a disagreeable odor and taste which will discourage persons from using it as a beverage. The addition of kerosene or white gasoline in amounts of 0.5% will have the desired effect, and will not alter the properties of methyl alcohol as a cleaner, paint thinner or antifreeze.

(e) Require a prominent label to be affixed to all permanent or temporary containers of methyl alcohol, or products containing methyl alcohol, as follows:

POISON !
CONTAINS METHANOL
DO NOT TAKE INTERNALLY
DO NOT BREATHE VAPORS
AVOID SKIN CONTACT

6. All persons charged with custody, inventory, issue and use of methyl alcohol should familiarize themselves with the contents of this letter.

--BuMed. Ross T. McIntire.

* * * * * *

To: All Ships and Stations. BuMed-MH6-SEH:RLS
A-3/EM10(HC)

Subj: BuMed Circ. Ltr M-6, Receipt, Transfer, and Disposition Card (NavMed HC-3),and BuMed Circ. Ltr M-7, Roster Report of the Hospital Corps (NavMed HC-4) - Modification of in Part. 21 Apr 1945

Refs: (a) BuMed Circ. Ltr M-6, Receipt, Transfer, and Disposition Card (NavMed HC-3), Preparation and Submission of, of 13 May 1944; AS&SL Jan-June1944, 44-552, p. 374.
(b) BuMed Circ. Ltr M-7, Roster Report of the Hospital Corps (NavMed HC-4), Preparation and Submission of, of 13 May 1944; AS&SL Jan-Jun 1944, 44-553, p. 379.

1. Reference (a) is hereby modified as follows:
   (a) Paragraph 2(d)(9) add subparagraph 2(d)(9)(SS):
   "Change of status to limited duty ashore".
   (b) Paragraph 2 (instructions regarding numbered lines):
   Line 9, delete present list of technical specialties and substitute therefor as follows:

Aviation Medicine	AVT
Clerical Procedures	CLT
Clinical Laboratory Technology	LBT
Commissary	CMT
Deep Sea Diving	DIV
Dental Technology General	DGT
Dental Technology Prosthetic	DPT
Dermatology and Syphilology	DST
Duplication Technic	DUT
Electrocardiography & Basal Metabolism	ELT

Epidemiology and Sanitation	EST
Electroencephalography	ENCEPH
Fever Therapy	FTT
Low Pressure Chamber	LPC
Malariology	MAL
Medical Field Service	MFT
Medical Photography	PMT
Neuropsychiatry	NPT
Neuropsychiatry Clerical Procedures	NP-CLT
Occupational Therapy	OT
Operating Room Technic	ORT
Pharmacy and Chemistry	PCT
Submarine Service	SUB
Physical Therapy	PHT
Property and Accounting	PAT
X-Ray	XRT
X-Ray & Photofluorography	XRPF

Line 10, delete present list of special qualifications and substitute therefore as follows:

Chemist	CHT
Dental Repairman	DRM
Embalmer	EMT
Medical Illustrator	MI
Orthopedic Appliance Mechanic	OAM
Optician	OPC
Optometrist	OPM
Chemical Warfare	CWT
* Dental Technician Prosthetic	DP
Podiatrist (Chiropodist)	POD
Radium Plaque Adaptometer Operator	RPA-OP
Registered Pharmacist	RGPH
Stenographer	STT
Sound Motion Picture	SMP
Acrylic Eye Illustrator	AEI
Spectacle Dispensers	SD
Physical Education	QPE

*(DP) is a designator and is specifically authorized by BuPers as an integral part of rate of pharmacist's mates who were in general previously qualified and designated DPT (see BuPers CirLtr 214-44).

2. Reference (b) is hereby modified as follows:

(a) Paragraph 2(d)(3), delete present list of technical specialties and substitute therefore the list of technical specialties as modified in paragraph 1 above.

(b) Paragraph 2(e)(7), column V: Remarks - delete etc., at end of paragraph and add "Limited duty ashore" etc. --BuMed. Ross T. McIntire.

To: All Ships and Stations.

Pers-66-McG
P3-5
BuMed-RP-IMB
P16-3/P3-2
30 Apr 1945

Subj: Policy Regarding Disposition of Partially Disabled Enlisted Men of the Naval Service.

Refs: (a) BuMed-BuPers joint ltr of 28 Oct 1942; N. D. Bul. Cum. Ed. 1943, 42-923, p. 1162.
(b) BuMed-BuPers joint ltr BuMed-RP-OIM, Pers-66-WH-P2-5, of 3 Mar 1945; N. D. Bul. of 15 Mar 1945, 45-265.
(c) BuPers-BuMed joint rest. ltr Pers-66-ELH, BuMed-RP-OIM, of 12 Jan 1945, as corrected by BuPers-BuMed joint ltr BuPers P3-5-66-WH, BuMed-RP-OIM, of 22 Feb 1945, addressed only to MOINC, U. S. Naval and U. S. Naval Convalescent Hospitals, Continental U. S.
(d) BuPers-BuMed joint ltr BuPers 6303-DW, P16-3/NH, BuMed-R1-JLA, P16-3/NH(034), of 30 Mar 1944; AS&SL Jan-Jun 1944, 44-405, p. 741.

1. References (a) and (b) are hereby canceled.

2. Enlisted personnel who are considered to be not physically qualified for all the duties of their rating shall be brought before a board of medical survey for evaluation of their physical condition and recommendation as to disposition. If they are found by a board of medical survey to be not physically qualified for all the duties of their rating, they shall be recommended for discharge except in the cases set forth below:

(a) Men whose disabilities are the result of wounds received in action or disease incurred in, and peculiar to, combat areas (such as filariasis and malaria). At their option, these men may be retained on active duty and assigned to duty commensurate with their physical qualifications in a limited-duty status; or if they so request in writing, be discharged from the naval service. Those who are Fleet Reservists or retired enlisted men may be released to inactive duty if they so desire and so request in writing.

(b) Men who present the disability seasickness (motion sickness) shall not be discharged but classified as physically qualified for duty on shore, including foreign shore, and transferred to nearest appropriate receiving station for assignment as follows: Receiving stations east of Mississippi River for further assignment by Commander Service Force, Atlantic Fleet, Subordinate Command; receiving stations west of Mississippi River for further assignment by Commander, Western Sea Frontier.

(c) Men who are not physically qualified for general service but who meet the physical standards for induction into the Navy as "Special Assignment" and are otherwise qualified for retention in the naval service, shall not be discharged but retained in the naval service and their classification changed to "Special Assignment" by adding (SA) following the designation USN, USN-I, USN(SV), USNR, or USNR(SV), as applicable, and they shall be assigned to duty in accordance with provisions of BuPers Circular Letter 8-45, of 15 Jan 1945. Minimum physical standards for men classified "Special Assignment"

differ from general-service standards as follows: (a) Color perception - color blindness acceptable, (b) vision - minimum 2/20 if correctible to 10/20 in each eye. Will accept slight functional defects, (c) hearing - 8/15 acceptable in each ear.

(d) Men who are temporarily unfit to perform all the duties of their rating by reason of combat or operational fatigue. These cases are considered to have a fatigue state or condition which has developed as a consequence of combat conditions and shall be recommended for return to duty, either limited or unlimited as circumstances warrant. Such cases shall not be discharged from the service under this diagnosis. If such an individual is totally unfitted for service a diagnosis more nearly representative of the basic disability shall be established.

3. It is directed that the medical officer in command, U. S. naval hospitals and naval convalescent hospitals (continental U. S.), take final action on the report of medical survey where discharge is recommended and such action can be taken in accordance with the authority contained in ref. (c). Otherwise, the report of medical survey shall be forwarded to this Bureau via BuMed for disposition.

4. In accordance with the provisions of this letter the only men to be retained for limited duty by reason of physical disability are those partially disabled by reason of wounds received in action or disease incurred in, and peculiar to, combat areas (malaria, filariasis, combat or operational fatigue); seasickness cases; and those who meet the physical standards for induction as "Special Assignment" personnel. These partially disabled men, if retained on active duty, shall:

(a) Be eligible for advancement in rating.

(b) If Regular Navy men, be eligible for transfer to the Fleet Reserve upon completion of required service in accordance with existing legislation.

(c) If Regular Navy men, not to be discharged at expiration of enlistment with a view to immediate reenlistment, until waiver of the physical defect has been approved by the Bureau of Naval Personnel.

(d) If they become unable to perform their duties, or when their services are no longer required, be brought before a board of medical survey for report and recommendation as to disposition.

(e) Be reexamined upon own request, and in any event reexamined every six months (ref. (d)), with a view to restoration to a full-duty status.

--BuPers. W. M. Fechteler. --BuMed. Ross T. McIntire.

* * * * * *

To: All Ships and Stations. Pers-66-BJS
P3-5
BuMed-RP-IMB
P3-5
30 Apr 1945

Subj: Enlisted Personnel Classified as Fit for Limited Duty Only as a Result of Medical Survey or Nav-Med Form Y, Disposition in the Case of.

Refs: (a) BuPers-BuMed joint rest. ltr Pers-66-ELH, BuMed-RP-OIM, of 12 Jan 1945, as amended by BuPers-BuMed joint ltr Pers P3-5/66-WH, BuMed-RP-OIM, of 22 Feb 1945, addressed to MOINC All U. S. Naval Hospitals and Naval Convalescent Hospitals (Continental U. S.).
(b) Par. 1529, Manual of the Medical Department.
(c) Joint Regulations of the Secretary of War, the Secretary of the Navy, and the Administrator of Veterans' Affairs to Implement Sections 103 and 200 of the Servicemen's Readjustment Act of 1944 - Instructions for Complying with - of 10 Aug 1944; N.D. Bul. of 31 Aug. 1944, 44-960.
(d) BuPers-BuMed joint ltr BuPers 6303-DW, P16-3/NH, BuMed-Rl-JLA, P16-3/NH(034), of 30 Mar 1944; AS&SL Jan-Jun 1944, 44-405, p. 741.

1. By 1 November 1945 it is desired that substantially all enlisted personnel who have previously been classified as fit for limited duty only as the result of an approved report of medical survey or NavMed Form Y be discharged or released to inactive duty. To accomplish this the following procedure shall be followed:

(a) All such personnel shall be reexamined. However, in order not to impair the operating efficiency of an activity to which a large number of limited-duty personnel are now assigned, such reexaminations shall be conducted progressively during the 4 months following receipt of this letter.

(b) Administrative commands, commanding officers, and medical officers should critically appraise the ability of men in this category to perform all the duties of their respective ratings. It is desired that care be exercised in interpretations of physical fitness for full duty giving due attention to the individual's age, rate, service experience, mental attitude, etc. It is particularly important that men not be returned to a full-duty status where they might be sent to sea or foreign shore duty if their physical condition is such that they are unlikely to render full service in their rating.

(c) Should examination result in the determination that a man is physically qualified for all the duties of his rating, appropriate entry shall be made in the health record NavMed Form H-8 in duplicate and a copy of such entry forwarded to BuMed. An appropriate entry shall also be made on page 9 of the man's service record citing this letter as authority and the duplicate copy forwarded to BuPers. The man concerned shall then be transferred to the nearest receiving ship or receiving station for general detail. The provisions of paragraph 8 of reference (d) are modified accordingly.

(d) Those enlisted men who are found not physically qualified for full duty shall be brought before a board of medical survey before discharge or release from active duty in accordance with the provisions of reference (b). This is particularly important in view of the Veterans' Administration benefits, the

income-tax benefits, and the other services provided which relate to rehabilitation, civil readjustment, and reemployment of disabled or partially disabled ex-servicemen. It is desired that, whenever possible, these men appear before a board of medical survey at their station of duty. This shall not preclude hospitalization of those individuals currently in need of hospital treatment, or of those who require special rehabilitation measures because of physical disability.

(e) Those individuals who are retained at their duty stations for medical survey may be returned to limited duty while awaiting the final action by the Bureau of Naval Personnel upon the Report of Medical Survey. In the event their discharge from the service by reason of physical disability is directed by the Bureau of Naval Personnel, commanding officers concerned shall carry out all required naval procedures with a view that such individuals may derive all the benefits to which they are entitled from the Veterans' Administration, such rehabilitation as the individual may need, and such social, vocational, and reemployment adjustments as may be warranted. (Reference should be made to reference (c).)

2. Enlisted personnel found by a board of medical survey to be not physically qualified for all the duties of their rating shall be recommended for discharge except in the cases set forth below:

(a) Men whose disabilities are the result of wounds received in action or disease incurred in, and peculiar to, combat areas (such as filariasis and malaria). At their option, these men may be retained in the naval service on active duty for the convenience of the Government and assigned to limited duty commensurate with their physical qualifications. However, if they so request in writing, they may be discharged from the naval service. Fleet Reservists and retired enlisted men may similarly be released to inactive duty.

(b) Men who present the disability seasickness (motion sickness) shall not be discharged but classified as physically qualified for duty on shore, including foreign shore, and transferred to nearest appropriate receiving station for assignment as follows: Receiving stations east of Mississippi River for further assignment by Commander Service Force, Atlantic Fleet, Subordinate Command; receiving stations west of Mississippi River for further assignment by Commander, Western Sea Frontier.

(c) Men who are not physically qualified for general service but who meet the physical standards for induction into the Navy as "Special Assignment" and are otherwise qualified for retention in the naval service, shall not be discharged but retained in the naval service and their classification changed to "Special Assignment" by adding (SA) following the designation USN, USN-I, USN (SV), USNR, or USNR (SV), as applicable, and they shall be assigned to duty in accordance with the provisions of BuPers Circular Letter 8-45, of 15 Jan 1945. Minimum physical standards for men classified "Special Assignment" differ from general-service standards as follows: (a) Color perception -

color blindness acceptable, (b) vision - minimum 2/20 if correctible to 10/20 in each eye. Will accept slight functional defects, (c) hearing - 8/15 acceptable in each ear.

(d) Men who are temporarily unfit to perform all the duties of their rating by reason of combat or operational fatigue. These cases are considered to have a fatigue state or condition which has developed as a consequence of combat conditions and shall be recommended for return to duty, either limited or unlimited as circumstances warrant. Such cases shall not be discharged from the service under this diagnosis. If such an individual is totally unfitted for service a diagnosis more nearly representative of the basic disability shall be established.

3. The report of medical survey in the cases of enlisted personnel surveyed at their station of duty shall be forwarded to BuPers via BuMed for final action. However, when surveyed at a naval hospital or naval convalescent hospital within the continental U. S., final action on the report of medical survey may be taken by the medical officer in command when discharge is recommended and such action can be taken in accordance with the authority contained in reference (a).

-- BuPers. W. M. Fechteler. --BuMed. Ross T. McIntire.

* * * * * *

To: All Ships and Stations. Pers-312B/1h
P16-3/00

Subj: Officers Unable to Continue Duty because of Chronic Seasickness, Reassignment of. BuMed-RP-DMA
A11/P3-1
30 Apr 1945

Refs: (a) BuPers Circ. Ltr 133-44; AS&SL Jan-Jun 1944, 44-568, p. 567.
(b) BuPers Circ. Ltr 69-42; N. D. Bul. Cum. Ed. 1943, 42-2122, p. 626.

1. Hereafter, commanding officers or reporting seniors will issue written orders (copy to BuPers) detaching the subject officers from their duty stations and directing them to report to the nearest naval hospital, dispensary, or other medical activity for observation. This letter should be referenced as authority for such orders. Medical officers in command of medical activities which do not have adequate facilities for complete examination of such officers are authorized to transfer them to the nearest activity where an adequate examination can be made.

2. After examination and appropriate medical study, the subject officers will be brought before a board of medical survey and upon forwarding of the report will be disposed of as follows:

(a) Those requiring further hospitalization will be retained for treatment or transferred as necessary.

(b) Those fit for return to duty, if the hospital is outside the continental limits, will be discharged from the sick list and issued written orders (copy to BuPers) directing them to report to the area commander for assignment to duty consistent with their disability. The area commander will dispose of these cases as follows:

(1) Those officers who are fit for sea duty on a large ship will be reported by dispatch to BuPers as available for such assignment, citing this letter as reference.

(2) Those who are fit for assignment to shore duty only will be issued written orders (copy to BuPers) by the area commander directing them to report to a shore station within the area - or will be reported to BuPers by dispatch as available for assignment to shore duty and not required within the area, citing this letter as reference.

(c) Those fit for return to duty, including limited duty, if the hospital is within the continental limits, will be disposed of under the authority granted by reference (a).

3. In all cases, medical officers in command will indicate, as a part of the endorsement on the report of medical survey, the disposition of the officer covered by the survey report.

4. Except as provided under 2(a) above, reference (b) may no longer be considered authority to transfer the subject officers to the United States.

--BuPers. W. M. Fechteler. --BuMed. Ross T. McIntire.

* * * * * *

To: All Ships and Stations. Aer-TF-22-EAT
56501

Subj: Navy Training Films, Change in Security Classification

5 Apr 1945

Ref: (a) CNO ltr Op-33-J9-JDK, serial 132733, of 21 Mar 1945.

1. Attention is invited to the following training film security classification changes authorized by reference (a):

From confidential to restricted
MN-2361 G and You
From restricted to nonclassified
MN-3446 ABC of G

--BuAer. L. B. Richardson.

* * * * * *

RESTRICTED

To: All Ships and Stations.

BuMed-WH-ERT
P3-2/NH
16 Apr 1945

Subj: Patient's Identity Tag, Use of.

Encl: (A) Patient's Identity Tag.

1. The Patient's Identity Tag, NavMed Form 70, shall be used for drafts of patients. The tags are printed on orange, green, and white cards and may be used to designate patients by branch of service.

2. The following classification has been established for uniformity of handling patients of all services:

Class 1A	STRICT MENTAL. These patients (major psychotics) will require the equivalent to locked ward accommodations on returning ships, hospital train or plane and at final destination, and will require special attendants.
Class 1B	SECURITY MENTAL. These patients require locked ward accommodations aboard returning ships and hospital trains or plane.
Class 1C	OPEN WARD MENTAL. These patients may be accommodated similarly to hospital ambulant and troop class patients.
Class 2	HOSPITAL LITTER PATIENTS.
Class 3	HOSPITAL AMBULANT. These patients are ambulant, but require medical services from other individuals.
Class 4	TROOP CLASS (AMBULANT). These patients do not require hospital care enroute and can take care of themselves.

3. Each tag is divided into five sections, with the serial number of the tag on each section. The five sections are:

(a) Patient's Identification Tab
(b) Debarkation Tab
(c) Record Office Tab
(d) Embarkation Tab
(e) Baggage Tab

The embarking activity shall, in each case, have the tags properly and legibly completed and attached to the patient at the time of embarkation. The diagnosis shall not be entered on patient with neuropsychiatric disturbances or venereal diseases. The baggage tab shall be attached to one piece of the patient's baggage and each additional item identified with the name, rank or rating, serial or service number and tag number. The embarkation tab will be detached by the embarking activity and used as a check on the patient embarked.

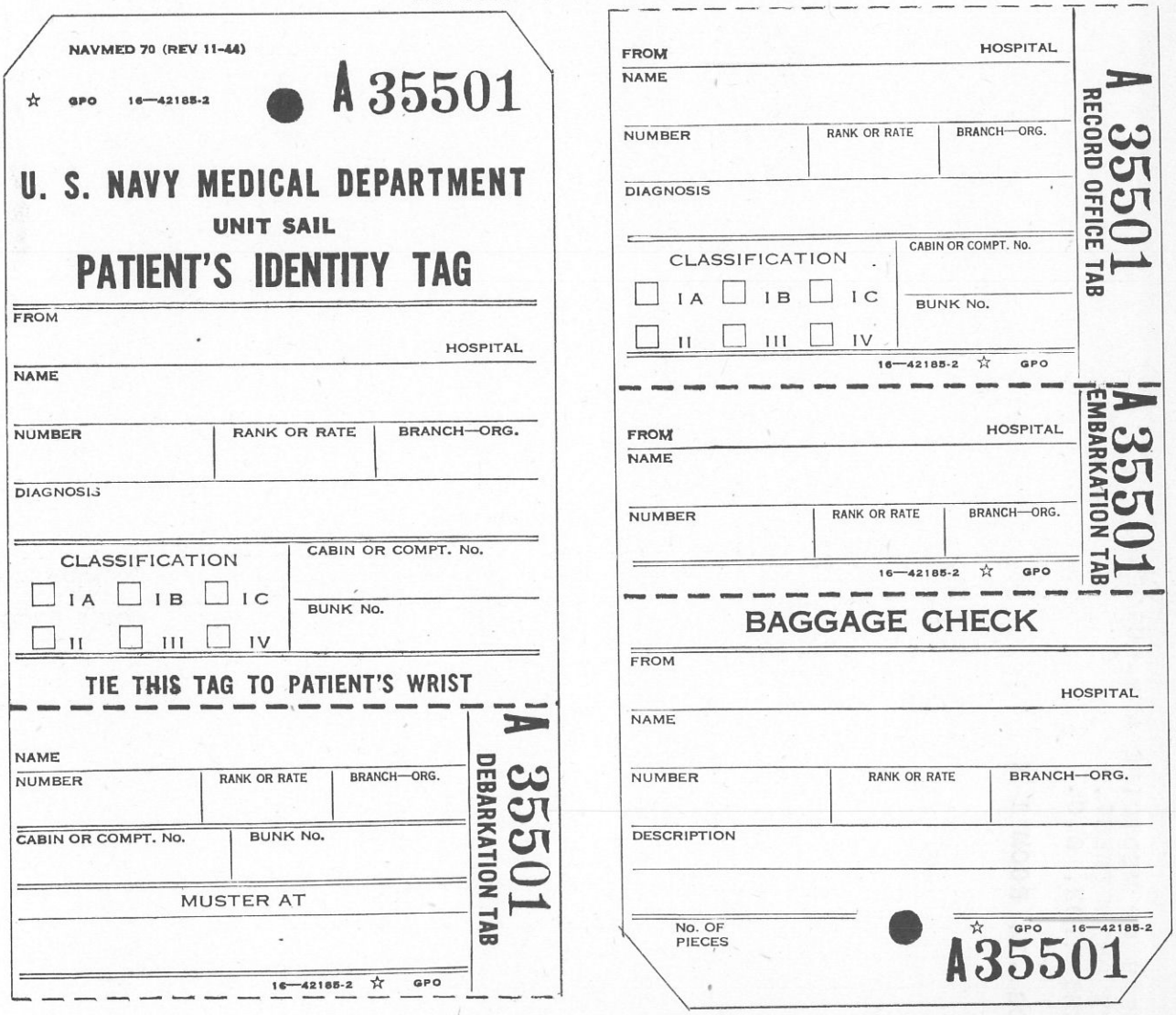
As patients board ship, train or aircraft, the record office tab shall be detached and filed in the office of the medical department for identification, diagnosis, and location of the patient. The record office tab may also be used as a check against the embarkation roster. The debarkation tab may be used aboard ship, train or aircraft for the location of the patient and should be collected at debarkation. Before debarkation the remaining part of the tag should again be attached to the patient.

4. These forms may be obtained from the Naval Medical Supply Depot, Brooklyn, New York, or Oakland, California, and will be listed in the Supply Catalog of the Medical Department as follows:

Stock No.	Navmed Form No.	Item	Unit
S16-2040	70	Patient's Identity Tag (green)	one
S16-2041	70	Patient's Identity Tag (orange)	one
S16-2042	70	Patient's Identity Tag (white)	one

--BuMed. Ross T. McIntire.

ENCLOSURE (A)



R.ADM.H.W.SMITH, MC.USN.RET.

BUREAU OF MEDICINE AND SURGERY,
NAVY DEPARTMENT,
WASHINGTON, D.C.

BLDG. 3, ROOM 1 X